1164 PTCA Outcomes in High Risk Patient Subsets

Wednesday, April 1, 1998, 9:00 a.m.–11:00 a.m.
Georgia World Congress Center, West Exhibit Hall Level
Presentation Hour: 9:00 a.m.–10:00 a.m.

1164-98 Clinical Outcomes of PTCA in Patients With Renal Failure: A Matched Control Study for Comorbid Factors

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Results of PTCA in pts with renal disease on hemodialysis have been disappointing with variable primary success, high procedural complication rates, and poor long term outcomes. Most reports have been from small series not controlled for comorbid factors. We reviewed our PTCA experience in 77 pts with renal disease (RD) over a 55 month period; 13 with creatinine >2.0 but not on dialysis, 49 dialysis dependent, and 15 post renal transplant not on dialysis. Each RD pt was matched with a PTCA "control" (creatinine <2.0) over the same period for age, gender, diabetes and previous coronary revascularization procedures.

Despite matching for these features, RD pts had higher rates of other vascular disease (peripheral, aortic, or cerebral), 58% vs 22%, $p < 0.001$, hypertension 99% vs 78%, $p < 0.001$, and left main disease, 9% vs 3%, $p = 0.09$ than "controls." PTCA lesion types were more complex for RD than "controls": 5% vs 16% Type A, 12% vs 28% Type B1, 44% vs 41% Type B2, 39% vs 15% Type C ($p < 0.001$).

The primary success rate for PTCA in RD pts and "controls" was 89% and 97% ($p < 0.05$) and for procedural MI 3% and 4% (p = NS). There were no procedure related strokes or deaths. Kaplan-Meier survival analysis 48 months following PTCA showed a lower cardiac event (redo PTCA, MI, CABG, and death) free survival for those with RD vs "controls", 53% vs 76%, $p < 0.002$. There was no difference in the incidence of cardiac events between the 3 subgroups of RD pts. Our results indicate acceptable primary success and complication rates for PTCA in RD pts but confirm poor long term outcomes and extend the observation of poor long-term outcomes to RD pts not on dialysis even if they were s/p renal transplant.

1164-99 Small Coronary Vessels: A Suitable Target for Percutaneous Revascularization in the New Device Era?

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Improvements in device technology has resulted in an increased success rate and a decreased complication rate in pts undergoing percutaneous revascularization. However, small vessels have been largely excluded from major shift in device technology. Thus, we compared the results of percutaneous revascularization in 819 pts with vessels ≤2.5 mm with those of 1,493 pts with vessels >2.5 mm. Pts with small vessels were older (65 ± 12 vs. 63 ± 12 years) and presented more frequently with female gender (39 vs. 30%), diabetes (27 vs. 18%), CHF (9 vs. 6%), vascular disease (15 vs. 11%) and multivessel disease (59 vs. 49%), ($p < 0.01$, each). In addition, AHA/ACC type C lesions was found more frequently in small vessels (10 vs. 6%). In contrast to stents (18 vs. 43%), conventional balloon PTCA (73 vs. 50%) and rotablation (16 vs. 8%) were used more often in smaller than larger vessels ($p < 0.0001$, each). In pts with small vessels, success rates were lower (92 vs. 96%, $p = 0.0006$) and major adverse events (death, Q-wave MI, emergency CABG) occurred more frequently (3.4 vs 2%, $p = 0.04$). Multivariate analysis identified small vessel as independent predictor of combined major events (odds ratio 2.2, $p < 0.005$).

Conclusions: 1) In the current device era, pts with small vessels carry higher risks and have slightly lower chances for successful revascularization. 2) In contrast to previous PTCA registries, the new device era generates reference vessel diameter as an important morphological predictor of outcome.

1164-100 Late (12 yr) Survival Is Not Better in Diabetic Patients Undergoing Coronary Bypass Surgery Compared With Balloon Angioplasty

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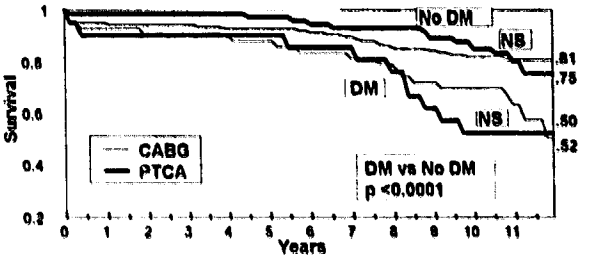
Background: Pts with coronary disease and diabetes mellitus (DM) treated by balloon angioplasty (PTCA) were reported to have poorer 5 yr outcome than those treated by bypass surgery (CABG). We examined single center 12 yr survival in pt cohorts with multivessel disease with and without DM treated by PTCA or CABG in 1984–6.

Methods: 95 consecutive pts had ≥1 vessel PTCA and 177 similar pts CABG, referred by physicians not performing PTCA at that time. Age, prior MI, hypertension and prevalence of DM were similar in CABG vs PTCA (NS). More CABG pts had 3 vessel disease (60.5% vs 37.9%, $p < 0.001$). In 53% of CABG, an internal mammary artery was used. Analysis used Kaplan-Meier curves and the log-rank test.



Conclusions: 1.12 yr survival after revascularization was decreased in diabetics. 2. Survival was not better in pts undergoing CABG vs PTCA

1164-101 Determinants of Long-term Prognosis in Patients With Small Vessel Disease who Underwent Coronary Angioplasty; Implication of Abnormal Glucose Tolerance

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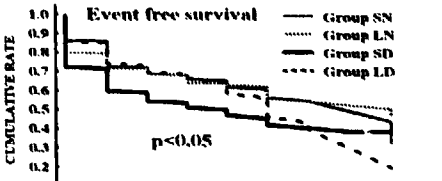
Background: Patients (pts) with diabetes mellitus (DM) and impaired glucose tolerance (IGT) frequently show severe coronary disease characterized by diffuse and small vessels in angiography, and are known to have unfavorable prognosis. To determine the cardiac event of small vessel disease with abnormal glucose tolerance (AGT) 559 pts (69 pts with DM, 120 pts with IGT: 12%, 22%, respectively who underwent first successful elective balloon angioplasty (BA) were analyzed.

Methods: Pts were divided into 4 groups according to reference vessel diameter (RF) before BA: 167 pts with normal glucose tolerance (NGT) and RF <2.5 mm (Group SN), 203 pts with NGT and RF ≥2.5 mm (Group LN), 97 pts with AGT and RF <2.5 mm (Group SD), and 92 pts with AGT and RF ≥2.5 mm (Group LD). The cardiac event (repeat coronary angioplasty, coronary bypass surgery, acute myocardial infarction and death) for 8 years after BA were compared among 4 groups.

Results: There were no difference in patient's demographics. Despite similar MLD after BA in Group SN and SD, Group SD showed unfavorable prognosis (Figure).



Conclusions: An important determinant for long-term prognosis is a presence of ACT, per, se, and is not small vessel diameter.

1164-102 Myocardial Viability Itself Influences Chronic Coronary Patency After Coronary Angioplasty

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We hypothesized that the chronic patency of culplit lesions after coronary angioplasty (PTCA) could be affected by myocardial viability of the target region. To assess the influences of myocardial viability on post-PTCA restenosis, a total of 50 patients (pts) with healed myocardial infarction and angina underwent resting state Thallium^{201} (Tl) scintigraphy just prior to PTCA, and follow-up coronary angiography 6 months after PTCA. Pts who needed intracoronary stenting were excluded. From the results of myocardial Tl uptake, pts were divided into 2 groups: Group 1 consisted of 25 pts (29 lesions) with fixed Tl defect; and Group 2 consisted of 25 pts (28 lesions) with normal Tl uptake. In pts with normal Tl uptake, PTCA reduced restenosis compared to